

## Voluntary Non-Financial Disclosure Practices by Belgian Listed Firms and Their Relevance from an Analysts' Point of View

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### **Abstract:**

*In a former study of Orens and Lybaert (2004), a cross-sectional approach was taken concerning the analysts' use of voluntary non-financial information. This paper elaborates on that study, in this sense that the subject is approached using time series data. More specifically, this paper discusses three research questions: (1) Is an evolution observable regarding the disclosure of voluntary non-financial information in annual reports over a period of time? (2) Is an evolution observable regarding the use of voluntary non-financial information by financial analysts? (3) Are corporate managers and financial analysts still attaching a different importance to non-financial information? Our research findings concerning the first research question show an improvement in the reporting practices by firms. In particular, an enhancement in the reporting of forward-looking information is observed. However, when discussing the second research question, it seems that the analysts' use of voluntary non-financial information in their analyst reports has not changed dramatically. Regarding the third research question, it is observed that the information gap between financial analysts and corporate managers still remains. Financial analysts use more forward-looking information and information about the stakeholders, i.e. the competitors, of the company. Corporate managers are reporting more information about the intangible assets and about the management and shareholders.*

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## 1. Introduction

The purpose of this paper is to enlarge our knowledge regarding the stock markets' information flows and in particular the behaviour of corporate managers and financial analysts towards voluntarily disclosed non-financial information. After all, an efficient functioning of capital markets requires an efficient functioning of the information flow (Barker, 1998; Holland and Johanson, 2003). Although numerous capital market participants have an influence on this information flow, this paper only concentrates on corporate managers and financial analysts since they are considered as the most important players on capital markets (Womack, 1996; Lang and Lundholm, 1996).

The focus in this paper is also limited to the flow of voluntary non-financial information. Although listed companies are required by law (e.g. standard setters or stock exchange regulators) to disclose lots of information, it appears that this information is inadequate for capital market participants to make accurate and reliable analyses about the company (AICPA, 1994; FASB, 2001). In this regard, financial analysts, amongst others, request that corporate managers also report information on a voluntary basis.

Furthermore, this paper only concentrates on non-financial information. We define non-financial information as all information that is not included in the financial statements issued by a company. The focus on this type of information is justified since Amir and Lev (1996) demonstrated a decline in the relevance of financial information in favour of non-financial information. Besides, some other studies, e.g. conducted by Hirschey et al. (2001) and Juntilla et al. (2005), provided evidence that non-financial information appears to be relevant information. As a result, Eccles et al. (2001) also showed that the users of corporate information attach more importance towards non-financial information.

This paper elaborates a former paper of Orens and Lybaert (2004) by researching the evolution in the extent to which corporate managers and financial analysts have changed their behaviour towards non-financial information over time. In line of these analyses, we also studied the extent to which the relative importance attached by corporate managers and financial analysts to the different types of non-financial information has changed between two periods. Previous findings of Orens and Lybaert (2004) suggested that financial analysts are using non-financial information, but corporate managers lack to include in their annual reports all non-financial information that is used by financial analysts. As a result, the importance paid to the various types of non-financial information differs between corporate managers and financial analysts.

In order to carry out our analyses, we examined the annual reports 2001 and annual reports 2003 issued by 33 listed companies, as well as 48 analyst reports drawn up in 2002 and 47 analyst reports published in 2004. The main conclusions of our analyses are that corporate managers enhanced their non-financial information disclosures in annual reports. However, financial analysts have not changed their behaviour towards non-financial information between 2002 and 2004. Despite the improvements in the non-financial information reporting in annual reports, significant differences regarding the relative importance still exist. In this respect, financial analysts are paying more attention to forward-looking information and to information about the stakeholders of the company, mainly information related to the companies' competitors. Conversely, corporate managers concentrate more on information about the management and the shareholders as well as on information about the intangible assets of the company.

The remainder of the paper is arranged as follows. Section 2 reviews some prior findings related to the behaviour of corporate managers and financial analysts towards non-financial information. Section 3 states our hypotheses, whereas section 4 discusses the research design. Section 5 presents our results, whilst section 6 discusses these research findings and provides some topics for further research.

## **2. The disclosure and the use of corporate information: some prior findings**

Traditionally, studies addressing the information reporting by listed companies mainly concentrate on the extent to which financial information is provided at one point in time. Consequently, researches focussing on non-financial information disclosures are rarely. Beattie et al. (2002) are one of the few studies dealing with the reporting of non-financial information in annual reports. These authors applied a topic analysis on the narrative sections of the annual reports and found that descriptive information and information about the managers and the shareholders were disclosed at most in annual reports. Conversely, forward-looking information and analytical discussion were reported to a lesser extent. Vanstraelen et al. (2003) researched a sample of annual reports issued by Belgian, Dutch and German firms. In this respect, they determined that companies are mostly disclosing information about the strategy and the management.

Marston and Polei (2004) are one of the few authors also having studied the evolution in the information disclosures by listed firms. They found a significant enhancement in the amount and the presentation of the information reported on the websites of 50 German listed firms. Nevertheless, the information disclosed on websites is mainly financial in nature. The companies in the sample only frequently provided corporate governance information. Social and environmental responsibility disclosures, being the second type of non-financial information considered in this paper, are rarely made available on websites.

Subsequently, Moneva and Llena (2000) analysed the environmental reporting practices of Spanish companies during the 1992-1994 period. Based on an analysis of 70 annual reports, they found that listed firms are publicly providing more environmental information. But they also emphasized that this increase is insufficient in order to satisfy the companies' stakeholders.

A second stream of literature focus on the relevance of corporate information for financial analysts. In this respect, a large body of researches examined the influence of information on analysts' characteristics such as their forecast accuracy. According to Aboody and Lev (1998), however, these studies have a limited scope since hardly any conclusions can be drawn about the extent to which financial analysts and investors really use certain information. Researches directly studying the extent to which financial analysts and other stakeholders use financial as well as non-financial information are rather rarely. In this respect, Previts et al. (1994), Rogers and Grant (1997), Dempsey and Gatti (1997), Breton and Taffler (2001), Nielsen (2004) and García-Meca et al. (2004) are the more recent studies examining the use of information by financial analysts.

Previts et al. (1994) provided evidence, based on a content analysis of 479 analyst reports, that financial analysts paid limited attention to non-financial information. They only demonstrated that financial analysts frequently use non-financial information about the risks and the opportunities, about the anticipated changes in the performance and the financial

position of a company, about the competitive position, about the management and about the strategy.

Rogers and Grant (1997) concluded, based on a content analysis of 187 sell-side financial analyst reports, that financial analysts attach a lot of importance on financial information. Concerning the use of non-financial information, they found that background information about the company, i.e. the description of the products, the market segments and the stakeholders, is mostly used.

Dempsey and Gatti (1997) found, based on a survey of 420 financial analysts, that financial analysts often use non-financial performance measurements. In this regard, the most important ones are dealing with the competitive position, the market share and the reputation of the management. However, the performance measurement that is mostly used appears to be financial, i.e. the net profit.

Breton and Taffler (2001) concluded, based on a content analysis of 105 analyst reports, that non-financial information about the market conditions is frequently used. Financial analysts consider non-financial information about the management and the strategy of a company as a driver to judge stock recommendations. However, 80% of the financial analysts avoid mentioning this information in their reports.

Nielsen (2004) provided evidence, based on a content analysis of 12 analyst reports dealing with the same listed firm, that financial analysts are especially attaching importance to background information about the company as well as to the analysts' own analysis of the company. A second striking result was the limited presence of intellectual capital information, corporate governance information and social and sustainability information in the analyst reports.

Finally, García-Meca et al (2004) consider the analysts' use of intellectual capital. These authors found, based on a sample of 217 analyst reports issued by 7 brokerage houses, that analyst reports frequently include information about the strategy. Conversely, financial analysts paid less attention to information about the human capital, the innovation and the research and development projects.

### **3. Hypothesis development**

As it is clear from the literature review, an information gap exists between the non-financial information provided by corporate managers and non-financial information used by financial analysts. This finding raises the question whether corporate managers and financial analysts have changed their behaviour towards non-financial information over time. After all, since information plays a significant role in the efficient functioning of capital markets, it can be argued that corporate managers and financial analysts might change their behaviour. As a result, we address the following research questions:

- (1) Is an evolution observable regarding the disclosure of voluntary non-financial information in annual reports over a period of time?
- (2) Is an evolution observable regarding the use of voluntary non-financial information by financial analysts?
- (3) Are corporate managers and financial analysts still attaching a different importance to non-financial information?

With respect to the first research question, it can be argued that corporate managers are disclosing more information. In this context, Marston and Poley (2004) provided evidence that companies are reporting more information on their websites over time. Perhaps, this may be the result of the increased pressure by capital market participants on corporate managers to provide more voluntary non-financial information. One another explanation may be the increased importance attached by the international literature on non-financial information (e.g. Hirschey et al., 2001; Juntilla et al., 2005). Taken into account these motivations, we state the following hypothesis:

*H1: The disclosure of non-financial information in annual reports increases over time*

According to expert interviews with financial analysts, it seems that financial analysts are at all times requesting more information. In the assumption that companies are disclosing more information, financial analysts have also the possibility to use more non-financial information. As a result, we expect that financial analysts will use more information. So, we state following hypothesis:

*H2: The use of non-financial information by financial analysts increases over time*

Previous findings of Orens and Lybaert (2004) and Nielsen (2004) determined a significant difference in the importance attached by corporate managers and financial analysts to the various types of information. Since it is expected that corporate managers improve their business reporting, we assume that corporate managers are mainly improving their information disclosure towards the information that is mostly required by financial analysts. As a result, we expect that corporate managers and financial analysts are attaching the same importance to the different types of information. We state the following hypothesis:

*H3: Financial analysts and corporate managers are attaching the same importance to the various types of information.*

#### **4. Research design**

In line with the paper of Orens and Lybaert (2004), we examined the evolution in the reporting of non-financial information by corporate managers as well as its use by financial analysts by performing the content analysis research method on annual reports and analyst reports. According to Vergoossen (1993), Blij (2001) and Ho and Wong (2001) annual reports are considered as one of the most important sources for financial analysts. In particular, we studied the narrative section of annual reports since it mainly consists of non-financial information. The financial statements included in the annual reports are not examined, since this information is financial in nature. In order to draw conclusions about the evolution of the non-financial information reporting, we analysed for each company in the sample the annual reports 2001 (issued in 2002) and the annual reports 2003 (issued in 2004).

So as to determine the changes in the use of non-financial information, the output of financial analysts by means of their analyst reports are studied. Hereby, the assumption is stated that an analyst report includes all information analysts find relevant in order to arrive at a recommendation (Rogers and Grant, 1997).

When applying the content analysis method, the distinction has to be made between disclosure index studies and thematic content analysis studies. The latter count all different

words and phrases appearing in the text, while the first examine the text units on the presence of an ex ante determined list of items. In the present paper, the second type of the content analysis method is performed.

Our sample of annual reports consists of all annual reports that are drawn up by all Belgian listed companies that either have a market capitalisation of more than 300 million euro or is integrated in the NextPrime segment of Euronext. This segment is created by Euronext on January 2002 and covers companies of traditional industries. The purpose of the NextPrime segment is to improve the companies' visibility since companies admitted to this segment have to comply with supplementary disclosure requirements (e.g. publishing documents in English, holding yearly at least two analyst meetings and publishing financial information on the website).

Furthermore, banks, insurance companies, holdings and real estates companies are, due to their specific nature, also eliminated from the sample. Finally, in case a company is not listed at both periods in time, it is also excluded from the sample. As a result, the final sample consists of 33 annual reports, of which more details are presented in table 1.

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The analyst reports examined in line of this paper are all reports that are publicly made available after the issuance of the annual reports 2001 or 2003 for each of the 33 listed companies in the sample. We only included in our sample the so-called company reports. In general, two types of analyst reports can be considered: result reports and company reports. The latter contain lots of corporate information in order to make a fundamental analysis of the company while the first only discuss an event taken place in the company, hereby limiting the amount of information in such reports. Since the purpose of this study is to gain more insight into the financial analysts' use of non-financial information, only company reports are examined. In case a financial analyst published more than one analyst report after the issuance of the annual report, only the first one is selected in the sample.

The final sample of analyst reports comprises 48 analyst reports issued in 2002 and 47 analyst reports issued in 2004. It is worth mentioning that these reports dealt with 28 listed companies of the original sample of 33 companies. We found no analyst report for five listed companies of our sample, namely Brantano, Picanol, Punch, Sioen and Solvus. Table 1 presents the number of analyst reports studied for each listed company in both periods.

As mentioned before, the content of annual reports and analyst reports is researched by employing a disclosure index. However, no general theoretical guidelines exist in order to draw such a disclosure index. As a result, the use of a disclosure-index is liable to subjectivity, which in turn may result in problems of validity and reliability (García-Meca, 2004, Marston and Shrivess, 1991). However, to minimize the extent of subjectivity, a binary coding scheme is used. Furthermore, the validity of a disclosure index increases when use is made of an information-index also applied in other studies (Marston and Shrivess, 1991).

The information-index used in this paper is based on the recommendations of the *American Institute of Certified Public Accountants (AICPA)* and the *Financial Accounting Standards Board (FASB)*. The AICPA established in 1994 a reporting model which includes all relevant

corporate information, financial as well as non-financial, that users of corporate information require in order to make investment decisions. This reporting model, included into the paper *Improving business reporting – a customer focus* (AICPA, 1994), consisted of a limited number of recommendations classified into five information categories.

In January 1998, the FASB restudied the recommendations of the AICPA with the purpose to enhance the corporate reporting practices. As a result, the FASB published in 2001 three papers, of which the second one – *Improving Business Reporting: Insights into Enhancing Voluntary Disclosures* (FASB, 2001) - is the most important one within the framework of this paper. The FASB (2001) paper still recommended companies to disclose information related to the same five information categories as developed by the AICPA, but also made an extension by recommending companies to disclose information regarding a sixth information category, i.e. information about the intangibles of the company. Unlike the AICPA (1994) paper, the FASB (2001) paper does not provide an exhaustive list of information items that firms may disclose.

In the light of this paper, our disclosure index contains six information categories. Five information categories are based on the AICPA-recommendations, whereas the sixth information category is based on the research findings of the FASB (2001) paper. In general, our disclosure index consists of 75 information items assigned to the six categories as follows:

- Business data (BUS): 10 items;
- Management's analysis of financial and non-financial data (ANA): 11 items;
- Forward-looking information (FWL): 11 items;
- Information about management and shareholders (MAN): 6 items;
- Background information about the company (BI): 24 items;
- Information about the intangible assets of a company (IC): 13 items.

Table 2 (column 1) lists the 75 non-financial information items classified into one of these categories.

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In case an annual report or an analyst report incorporates an item, it gets the value one, otherwise zero. This binary coding scheme is often criticized, as it does not take into account the differences in importance attached to the different information items. However, previous studies found similar results whether or not the information items are weighted (Cooke, 1989; Marston and Shrives, 1991; Meek et al., 1995).

## 5. Research findings

The frequencies that each of the 75 information items are included in analyst reports or annual reports, are presented in table 2 (columns 2 to 5). Based on these frequencies, the cluster analysis is performed so as to measure the extent to which each information item is frequently or rarely used. The number of clusters is derived on four since the heterogeneity between the clusters is the largest at this number (based on the hierarchical cluster analysis). The 75 information items are then assigned to one of the four clusters, based on the K-means clustering method.

The following subsections discuss our results regarding the evolution in the disclosure of voluntarily non-financial information by Belgium listed companies, followed by our research findings with respect to the use of voluntary non-financial information by financial analysts. Finally, we compare the extent to which financial analysts and corporate managers are attaching the same importance on non-financial information.

*The disclosure of voluntary non-financial disclosure by Belgian listed firms*

Table 2 (column 2 and column 3) shows the extent to which each information item is reported in the annual reports 2001 and annual reports 2003 as well as the cluster to which each item is assigned. Cluster 1 contains all information items that are often mentioned, in more than 80% of the annual reports. Cluster 2 represents all information items that are regularly disclosed, between 50% and 80% of the annual reports. Cluster 3 classifies those information items that are sometimes reported, between 20% and 50% of the annual reports, while cluster 4 consists of information items that are rarely disclosed, in less than 20% of the annual reports. Table 3 presents the number of non-financial information items assigned to each of the four clusters for both samples of annual reports.

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The findings of table 3 make clear that in general 13 items (representing 17% of all information items) in the annual reports 2001 are classified to cluster 1, whilst in the annual reports 2003, 14 items (19%) are categorized to this cluster. By contrast, in the sample of annual reports 2001, 25 items (33%) are belonging to cluster 4, which imply that this information is seldom included in the annual reports. However, the number of items allocated to cluster 4 is diminished to 16 items (21%) when considering the sample of annual reports 2003. Based on the cluster analysis, it can thus be argued that annual reports are disclosing more information over time. More details concerning the results of the cluster analysis as well as its evolution are presented in table 2.

So as to examine the extent to which corporate managers have changed their disclosure policies, table 4 and table 5 provide some descriptive statistics about the extent to which annual reports 2001 and annual reports 2003 disclose non-financial information regarding each of the six information categories.

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The comparison over time reveals an increase in the aggregated voluntary non-financial information reporting by Belgian listed firms with 16% (comparison of AR03\_TOT with AR01\_TOT). An average annual report 2001 consists of 29,82 non-financial information items (40% of all items in the index), whereas the average annual report 2003 consists of 34,58 items (46% of all items). This growth in the non-financial information reporting in annual reports is to a large extent attributable to forward-looking information (FWL). AR03\_FWL compared to AR01\_FWL shows an increase of 37%. Annual reports are also including more non-financial information related to the other information categories, although to a lesser extent than forward-looking information.



The increased pressure of capital market participants to disclose more forward-looking information can explain the expansion in this type of information in annual reports. As will be discussed in the following section, financial analysts are attaching lots of importance to forward-looking information, but, despite the increased reporting of forward-looking by corporate managers, the information gap between both capital market participants still exist. However, due to competitive reasons, companies may be reluctant to disclose more forward-looking information.

The enhancement in the disclosure of voluntarily disclosed non-financial information is statistically tested using the Wilcoxon ranks test. Since the variables are not normally distributed, we utilize this non-parametric test. The Wilcoxon ranks test analyses whether or not two related variables have the same distribution. This test takes into account information about the magnitude of differences within pairs and gives more weight to pairs that show large differences than to pairs that show small differences. The test statistic is based on the ranks of the absolute values of the differences between the two variables. As a result, the Wilcoxon ranks test is more powerful than the sign test since the latter makes only use of unweighted pairs. The research findings related to the Wilcoxon ranks test are presented in table 6.

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The results provided in table 6 make clear that, in general, annual reports are disclosing more non-financial information over time, (AR03\_TOT compared to AR01\_TOT) since a p-value of 0.000 is obtained. No less than 24 companies (73%) are disclosing more non-financial information whilst only 8 companies (24%) are disclosing less information and 1 company (3%) is reporting the same amount of non-financial information. Therefore, we accept the first hypothesis since it is statistically proved that the non-financial information reporting has improved during the period 2001-2003.

When analysing the results of table 6 more in detail, we found that the reporting behaviour of listed firms have changed significantly for each of the six information categories. The most striking results were obtained regarding the disclosure of forward-looking information (FWL) and background information of the company (BI). The Wilcoxon ranks test determines for both categories p-values of 0,011 and 0,013. The number of companies having reported more voluntary forward-looking information and background information is determined on 20 (61%), respectively 19 (58%). Lots of companies are also disclosing more information about their intangible assets (IC) (20 companies) as well as on their own analysis of financial and non-financial data (ANA) (19 companies). However, their p-values are less significant than the ones of the previously discussed information categories, but still they are less than 0,005. Since companies already reported a large amount of information about the management and shareholders (MAN) in the annual reports 2001, the increase of this information in the annual reports 2003 is less outspoken. As a result, its significance is only just obtained.

It is also interesting to discuss the most outstanding evolutions in the reporting of individual information items over time. Regarding the forward-looking information (FWL), the increase in the disclosure of information about new products that will be launched in the next year (FWL.8; +27%), about the future productive capacity of the company (FWL.11; +24%), about the evolution of future macro-economic indicators (FWL.10; +21%) and about the

comparison of actual business performance to previous opportunities, risks and plans of a company (FWL.9) is noteworthy (see table 2).

Subsequently, the annual reports 2003 considerably include more background information about the location and productive capacity of the company's principle plants (BI.14; +27%) and about the principal markets and market segment (BI.7; +18%). Information about the quality of the products or services (BUS.4) seems to be the information item that experienced the largest increase in its reporting between both periods (+36%). Besides, annual reports mention also more information about the productivity of their company (BUS.8; +30%).

Although the general trend of the non-financial information reporting is apparently upwards, some information items are less cited in the annual reports 2003 compared to these of 2001. So, the decrease of the reporting of information about the staff policy (IC.9; -18%) is remarkable. Moreover, we examined a large decline related to information about the evolution in the selling prices (BUS.2; -18%), about the consistency of the strategy with trends affecting the business (BI.3; -18%) and about the macro-economic trends and its effect on the company (ANA.10; -15%). More research findings concerning the evolution of each information item are provided in table 2.

#### *The use of voluntary non-financial information by financial analysts*

As mentioned earlier, the second objective of this paper is to research the evolution in the non-financial information use by financial analysts. Therefore, we analysed analyst reports drawn up in 2002 and 2004 for the same listed companies as in the sample of annual reports. We are unable to judge the use of non-financial information for five companies since no analyst reports were published. As a result, our sample size consists of 48 analyst reports made in 2002 and 47 analyst reports made in 2004.

The frequencies that each of the 75 information items is used in both samples of analyst reports are presented in table 2, column 4 and column 5. As like the annual reports, a cluster analysis is performed in order to classify the items. The same categorization as like the annual reports is used to allocate each information item to one of the four clusters. The number of information items assigned to each of the four clusters is presented in table 3.

The findings presented in table 3 show that the analyst reports 2002 often use 7 information items (9%). Regarding the sample of analyst reports 2004, we found that 8 information items (11%) are classified to cluster 1. By contrast, a large number of non-financial information items are rarely discussed in analyst reports. The sample of analyst reports 2002 comprises 30 items (40%) that are classified to cluster 4. On the other hand, the analyst reports 2004 even assign 34 items (45%) to cluster 4. Apparently, analyst reports are using non-financial information to a lesser extent, although our previous findings indicate an increasing trend in the disclosure of non-financial information by listed companies.

In order to reach conclusions whether or not financial analysts have changed their behaviour, table 7 and table 8 present some descriptive statistics related to the information use in both periods.

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Insert Table 7 and Table 8

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As it is clear from the tables 7 and 8, the aggregated use of non-financial information has decreased over time by 7% (AR04\_TOT compared to AR02\_TOT). An average analyst report drawn up in 2002 consists of 27,19 non-financial information items (36% of all information items), whilst an average analyst report published in 2004 only includes 25,25 information items (34%). This decline is particularly attributable to the background information about the company (BI). The use of this information category in the analyst reports 2004 decreased by 17% compared to the analyst reports 2002 (AR04\_BI compared to AR02\_BI). Besides the decrease of BI, also information about the intangible assets of the company (IC) appears to be less important to financial analysts since its use decreases by 3%. The remaining information categories show a slight improvement, except forward-looking information, whose use stays at the same level.

So as to make a comparison in the use of voluntary non-financial information over time, we decided to limit the number of analyst reports since the full sample of analyst reports in both periods is asymmetrically composed (e.g. the sample of analyst reports 2002 contains one report drawn up for Agfa Gevaert whilst the sample of analyst reports 2004 includes three reports made for Agfa Gevaert). In order to minimize biases, we only selected those analyst reports that are made for the same company by the same brokerage firm in both periods. This limitation results in a sample of 30 paired analyst reports (table 9). The descriptive statistics for these 30 analyst reports are provided in table 10 and table 11.

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Insert Table 9, Table 10 and Table 11

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When comparing the findings in table 10 and table 11 with the results in table 7 and table 8, we observe a minor positive difference between the amount of non-financial information included in the analyst reports belonging to the limited sample (30 cases in both periods) compared to the full sample (48 and 47 cases). This finding is explained by the fact that the average size of the companies in the limited sample is larger than the one in the full sample. Since García-Meca et al. (2004) proved a positive relationship between the size of the company and the information use by financial analysts, this difference is justified. However, the evolution in the information use between both periods in the limited sample shows the same pattern as in the full sample.

Whether or not the changes in the analysts' behaviour towards its use of non-financial information are significant, we performed the Wilcoxon ranks test on the paired sample of 30 analyst reports. Our findings related to this test are presented in table 12.

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The results set out in table 12 show, on a 5% level, no significant changes in the overall use of voluntary non-financial information (comparison AR04\_TOT with AR02\_TOT). However, we should note that the information use between the two periods has decreased in 19 analyst reports (63%). This finding is even contradictory to our hypothesis since we expected an increase in the use of information instead of a decrease. However, as no statistical evidence is provided, we reject our second hypothesis.

Although, in general, no significant evolution is observable in the use of non-financial information by financial analysts, we found a significant decline in the use of background information (AR04\_BI-AR02\_BI). A p-value of 0.011 was obtained which is less than the criterion of 0.05. Based on table 12, it can be determined that the use of background information decreased in 19 analyst reports (63%), whilst 7 analyst reports (23%) include more background information and 4 analyst reports (13%) stay at the same level. Finally, table 12 makes also clear that the use of the remaining information categories is not significantly changed during the 2002-2004 period.

Since the analyses above indicated a decrease in the use of background information (BI), we should also draw attention to the changes in the individual information items of this information category. In this regard, as shown in table 2, information about the seasonality and cyclicity of the company (BI.10; -39%), about the broad strategies (BI.2; -26%), about the consistency of the strategy with the key trends affecting the business (BI.3; -25%) and about the objectives of the company (BI.1; -24%) is apparently less used by financial analysts. The decline in the use of information about the objectives and the strategy is remarkable since nearly all annual reports include this information.

Beside the decrease in some background information items, notable negative evolutions in the information use are also observed for items belonging to other information categories. So the decline in the use of information about the evolution in the selling prices (BUS.2; -26%) and about the conditions that must occur in the external environment that must be present to meet the broad objectives and business strategy (FWL.6; -21%) is worth mentioning.

Conversely, some information items are also mentioned more in the analyst reports drawn up in 2004 compared to the analyst reports made in 2002. Thus, an evolution in the reporting of information about the comparison of actual business performance to previously disclosed opportunities, risks and plans of the company (FWL.7; +32%), about the major shareholders of the company's stock (MAN.2; +22%) and about the evolution of the purchasing prices of basic materials (BUS.6; +17%) amongst others, is noteworthy.

Despite the negative evolution of some background information items, analyst reports still concentrate heavily on other background information items. So, financial analyst are including in their reports very often information about the industry in which the business participates (BI.4; 100% in analyst reports 2002; 100% in analyst reports 2004), about the principal products and/or services (BI.6; 96%; 94%), about the principal market and market segments (BI.7; 94%; 96%) and about the general development of the business (BI.5; 77%; 83%). Some other information that is frequently included in the analyst reports, is information concerning the volume and evolution in the number of units sold (BUS.1; 90%; 96%), concerning the reasons identified by the management for changes in the profitability (ANA.3; 81%; 89%), concerning the future opportunities for the company (FWL.2; 77%; 91%) and concerning the expectations about the future growth of the company (FWL.9; 83%; 89%). This information is assigned to cluster 1.

### *The importance attached by corporate managers and financial analysts to voluntary non-financial information*

This section presents our empirical results concerning the extent to which corporate managers and financial analysts attach the same importance on non-financial information. Table 13 presents the mean scores of the number of information items disclosed or used for each of the

six information categories. Regarding the annual reports, we limit our sample to 28, as we have no analyst report available for five companies.

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Given the findings in table 13, it is clear that, in general, annual reports are providing more non-financial information compared to analyst reports. An average annual report contains 29,46 items in 2001 and 34,43 items in 2003, whilst an average analyst report includes 27,19 items in 2002 and 25,26 items in 2004. By examining the mean scores for each information category separately, it can be observed that annual reports are disclosing in both periods more business data (BUS), more information concerning the managements' own analysis of these business data (ANA), more information about the management and the shareholders (MAN) and more information about the intangible assets of the company (IC). Conversely, analyst reports are providing more forward-looking information (FWL). Regarding the background information (BI), it can be viewed that annual reports 2001 are reporting this information to a lesser extent than the analyst reports 2002, but an inverse result is shown for the sample of annual reports 2003 compared to the analyst reports 2004.

Although these descriptive statistics provide us with some prior evidence regarding the importance of non-financial information attached by corporate managers and financial analysts, it might also be interesting to statistically test the relative importance for both capital market participants. Since we assume that financial analysts are including in their reports all information they find relevant, we also assume that all other information in the index that an analyst refuses to mention in his/her report, is irrelevant. As a result, it is interesting to examine whether or not annual reports may focus too heavily on these irrelevant information.

Therefore, we examined the relative importances that corporate managers and financial analyst attach to each of the six information categories. For instance, when a financial analyst includes in his report four information items that belong to the information category forward-looking information and his aggregated number of non-financial information items is 20, the relative importance of this financial analyst attached to forward-looking information is counted on 20%. The mean values of the relative importance attached by corporate managers and financial analysts on each information category are shown in table 14.

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Insert Table 14

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The descriptive results presented in table 14 point out that, regarding both sample periods<sup>2</sup>, corporate managers are attaching more importance to business data (BUS), information about the management and the shareholders (MAN) and information about the intangible assets (IC). Financial analysts, on the other hand, concentrate more on forward-looking information (FWL) and on background information (BI). Finally, information about the management's own analysis of business data (ANA) provides mixed results.

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<sup>2</sup> the sample of annual reports 2001 compared to the sample of analyst reports 2002 and the sample of annual reports 2003 compared to the sample of analyst reports 2004

It is also interesting to note that annual reports are paying more attention to forward-looking information (FWL) and to information about the intangible assets of the company (IC) over time; hereby decreasing the importance attached to the other information categories. So, corporate managers tend to pay more attention to the more modern information categories instead of the more traditional information categories. However, despite its decrease, background information (BI) still represents a large part in the aggregated non-financial information use.

Concerning the relative importance attached by financial analysts, it can be determined that the importance paid on background information (BI) decreased from 44,65% to 39,46%. Consequently, financial analysts increased their relative importance to the other information categories.

In order to statistically test our descriptive findings, the Mann-Whitney U test is performed. This non-parametric test examines whether two independent samples are from the same population. It is more powerful than the median test since it uses the ranks of the cases. The Mann-Whitney U-test measures the number of times a value in the sample of annual reports precedes a value in the sample of analyst reports when these values are sorted in ascending order. The results of the Mann-Whitney U-test for both periods (annual reports 2001 compared to analyst reports 2002 and annual reports 2003 compared to analyst reports 2004) are provided in table 15 and table 16.

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 Insert Table 15 and Table 16  
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The results of the Mann Whitney U-test confirm our descriptive findings. Corporate managers and financial analysts are placing equal weight to the information items of management's analysis of business data (ANA).

The importance attached to business data (BUS) has changed over time. When only considering the sample of annual reports 2001 compared to the sample of analyst reports 2002, we found that annual reports are proportionally including more non-financial business information than analyst reports. However no significant results were obtained when comparing the sample of annual reports 2003 with the sample of analyst reports 2004. The importance attached by financial analysts on business data has increased over time, which in turn supports our statistical findings.

Regarding the remaining four categories, we determined significant differences in both periods. In this respect, we found that analyst reports, compared to annual reports, are providing more forward-looking information (FWL) and background information (BI). By contrast, annual reports provide, compared to analyst reports, more information about the management and the shareholders (MAN) and about the intangible assets of the company (IC).

Concerning the forward-looking information (FWL), it can be noted that approximately 20% of all non-financial information in an analyst report, is forward-looking in nature (table 14). Corporate managers spend in their reports proportionally 11,5% respectively 12,97% of all non-financial information to forward-looking information (table 14). This finding makes also clear that corporate managers has enhanced their information reporting towards non-financial

information, but they failed to narrow the information gap completely. In particular, when also considering the findings in table 2, it seems that forward-looking information about the risks and the opportunities of the company is more frequently included in analyst reports than in annual reports.

With reference to the background information (BI), financial analysts are attaching more importance to the information about the stakeholders, and in particular information related to the competitors of the company. Annual reports hardly mention this kind of information. This difference accounts for our significant result.

Annual reports mention more information about the management and the shareholders (MAN). This finding is attributable to the fact that some information items of this information category are subject to the 'comply-or-explain' principle as required by the stock exchange regulator in Belgium (the Banking, Finance and Assurance Commission, BFIC). This principle implies that listed companies may choose not to disclose certain information, but in that case they have to provide a reason for not disclosing this information. As a result, all listed companies in our sample present information about the directors of the company and consequently they also provide information about the managers' or directors' compensation and their stock ownership, although this information is only recommended by the BFIC. As a result, annual reports are including lots of information regarding the so-called corporate governance information, whereas financial analysts rarely use this kind of information.

Finally, information about the intangible assets of the company (IC) seems to be information to which corporate managers paid more attention compared to financial analysts. Given the results of table 15, we even observe an increase from 11,81% to 13,10% in the relative importance attached by corporate managers to this information. Financial analysts, by contrast, only spend approximately 6% of all non-financial information they use to information about the intangible assets of the company. In particular, annual reports provide lots of information related to their main brands and to their research and development programs, but these information items are nearly discussed in analyst reports. The only information item frequently dealt with in analyst reports appears to be information about realised acquisitions (table 2).

To conclude, the third hypothesis is accepted for the information categories business data (BUS) and management's analysis of business data (ANA), but is rejected when dealing with the information categories forward-looking information (FWL), information about the management and the shareholders (MAN), background information (BI) and information about the intangible assets of the company (IC).

## **6. Discussion and topics for further research**

This paper aims to provide a contribution to the capital market literature by concentrating on the evolution of the information flow between corporate managers and financial analysts. Based on a sample of 33 Belgian listed companies, we found an increasing trend in the reporting of non-financial information and, in particular forward-looking information, in annual reports. However, despite this increase, financial analysts tend to use the same amount of non-financial information. Moreover, our empirical results even show a slight decrease, although not being statistically significant. Concerning the relative importance attached to the various types of information, we found that financial analysts are paying more attention to forward-looking information and to background information, whereas corporate managers are

attaching more attention to information about the managers and the shareholders and to information about the intangible assets of the company.

Our results are a confirmation of earlier research of Rogers and Grant (1997). These authors also found that analyst reports mainly include background information and forward-looking information, whereas information about the managers and the shareholders are rarely mentioned. Furthermore, by relating the financial analysts' information use with the reporting of it in annual reports, they also jumped to the similar conclusion as ours that annual reports lack in reporting all necessary information used by financial analysts. By contrast, annual reports contain lots of information about the management and the shareholders, which appears to be information that is not frequently used by financial analysts.

The evolution in the importance attached by corporate managers to the different information categories showed an increase in the importance of forward-looking information and information about the intangible assets of a company. The increase in the disclosure of forward-looking information can probably be attributed to the importance attached by the other capital market participants to this information. Our findings suggest, however, that, although corporate managers have done lots of efforts to include more forward-looking information in annual reports, still an information gap between the demand and the supply of this type of information exists.

Subsequently, our findings also documented an increase in the relative importance attached by corporate managers towards the information about the intangible assets between both periods. According to the literature (e.g. Barth and Clinch, 1998; Kallapur and Kwan, 2004), this type of information appears to be more relevant in evaluating the value of a company. However, this increase in the disclosure of information about the intangible assets is not reflected by a change in the behaviour of financial analysts. Given our results, which are similar to other studies (e.g. Catasús and Gröjer, 2001; Blij, 2001; Nielsen, 2004), financial analysts seldom use information about the intangible assets of the company. So, it seems that financial analysts underestimate the importance of this type of information. One probable explanation for this striking result may be that financial analysts have some reservations about the validity and the reliability of this information (Johanson, 2003). Possibly, also the lack of experience in using it may determine the limited use of this information. So more research is required in order to gain more insight into the behaviour of financial analysts towards information about the intangibles assets.

Perhaps, analyst reports may not include all information analysts use, as is suggested in the international literature (Schipper, 1991; Rogers and Grant, 1997) as well as by means of an expert interview with a financial analyst. However, this analyst also confirms that an analyst report has to consist of all information necessary to justify the stock recommendation. However, it is quite still possible that not all information analysts use, is disclosed in the analyst report. So to enlarge our understanding in the analysts' behaviour towards non-financial information, the application of other research methodologies, e.g. survey research, is needed.



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## Tables

**Table 1: Selected companies in the sample**

Company name	Industry	Market-capitalization (in mio EUR)	Belonging to Next prime segment	Nr. of analyst reports issued in 2002	Nr. of analyst reports issued in 2004
Agfa Gevaert	Medical equipment	3372	No	1	3
Barco	Electronic equipment	798	No	4	3
Bekaert	Engineering	1400	Yes	4	3
Brantano	Retail	133	Yes	0	0
CMB	Shipping	1030	Yes	2	1
Colruyt	Retail	4580	Yes	1	2
Deceuninck	Building and construction	527	Yes	3	2
Delhaize	Retail	5575	No	1	2
D'ieteren	Business support services	936	Yes	1	1
Docpharma	Pharmaceuticals	192	Yes	1	1
Duvel Moortgat	Beverages	145	Yes	1	1
Electrabel	Electricity	18406	No	1	2
Inbev	Beverages	16601	No	1	1
Innogenetics	Biotechnology	392	No	1	1
Kinepolis Group	Leisure	192	Yes	1	1
Lotus Bakeries	Food processor	92	Yes	1	1
Melexis	Semiconductors	423	No	1	1
Mobistar	Wireless telecom	4254	Yes	1	2
OmegaPharma	Pharmaceuticals	1075	Yes	3	2
Picanol	Engineering	105	Yes	0	0
Punch	Engineering	101	Yes	0	0
Quick	Leisure	310	Yes	1	1
Recticel	Chemicals	210	Yes	2	1
Resilux	Chemicals	82	Yes	2	1
Roularta	Media	563	Yes	1	4
Sioen	Textiles	224	Yes	0	0
Solvay	Chemicals	7447	No	3	2
Solvus	Human resources services	432	Yes	0	0
Telindus Group	Telecommunication	341	No	1	1
Tessengerlo	Chemicals	919	Yes	4	2
UCB	Pharmaceuticals	5518	No	1	2
Umicore	Chemicals	1965	Yes	3	2
VandeVelde	Textiles	359	Yes	1	1

**Table 2: Frequency table of the disclosure of non-financial information in annual reports and of the use of non-financial information in analyst reports (including the results of the cluster analysis)**

Column 1: Information items		Column 2: Annual reports 2001		Column 3: Annual reports 2003		Column 4: Analyst reports 2002		Column 5: Analyst reports 2004	
		Freq. N=33	Cluster	Freq. N=33	Cluster	Freq. N=48	Cluster	Freq. N=47	Cluster
Business data (BUS)									
bus.1	the volume and the evolution in the number of units sold	97%	1	100%	1	90%	1	96%	1
bus.2	the evolution in the selling prices	52%	2	33%	3	75%	2	49%	3
bus.3	the evolution in the market share	42%	3	52%	2	60%	2	55%	2
bus.4	the quality of the products/ services	27%	3	64%	2	6%	4	13%	4
bus.5	the volume of used basic materials	18%	4	3%	4	4%	4	9%	4
bus.6	the evolution in the purchasing prices of basic materials	27%	3	27%	3	23%	3	40%	3
bus.7	the compensation of employees	52%	2	61%	2	29%	3	23%	3
bus.8	the productivity of a company	12%	4	42%	3	13%	4	15%	4
bus.9	the time required to perform activities such as production, delivery of products, development of new products	6%	4	12%	4	2%	4	2%	4
bus.10	innovation (e.g. new products, new production processes)	88%	1	94%	1	46%	3	55%	2
Management's analysis of business data (ANA)									
ana.1	reasons identified by the management for changes in volume of units sold or in revenues	82%	1	88%	1	77%	2	74%	2
ana.2	reasons identified by the management for changes in innovation	30%	3	45%	3	17%	4	13%	4
ana.3	reasons identified by the management for changes in profitability	82%	1	76%	2	81%	1	89%	1
ana.4	reasons identified by the management for changes in the long term financial position	30%	3	52%	2	44%	3	43%	3
ana.5	reasons identified by the management for changes in the short term liquidity and financial flexibility	30%	3	33%	3	8%	4	19%	4
ana.6	unusual or nonrecurring events and the past effect of them on the company	27%	3	27%	3	13%	4	23%	3
ana.7	social trends and the past effect of them on the company	18%	4	24%	3	19%	4	11%	4

Column 1: Information items		Column 2: Annual reports 2001		Column 3: Annual reports 2003		Column 4: Analyst reports 2002		Column 5: Analyst reports 2004	
		Freq. N=33	Cluster	Freq. N=33	Cluster	Freq. N=48	Cluster	Freq. N=47	Cluster
ana.8	demographic trends and the past effect of them on the company	3%	4	15%	4	0%	4	0%	4
ana.9	political trends and the past effect of them on the company	0%	4	6%	4	6%	4	13%	4
ana.10	macro-economic trends and the past effect of them on the company	58%	2	42%	3	46%	3	40%	3
ana.11	regulatory trends and the past effect of them on the company	3%	4	24%	3	19%	4	13%	4
Forward-looking information (FWL)									
fwl.1	the future risks for the company	30%	3	36%	3	75%	2	74%	2
fwl.2	the future opportunities for the company	52%	2	64%	2	77%	2	91%	1
fwl.3	the effects of the risks and opportunities on the business's future earnings and future cash flows	9%	4	21%	3	46%	3	34%	3
fwl.4	the activities and plans to meet the broad objectives and business strategy	94%	1	88%	1	73%	2	79%	2
fwl.5	the conditions that must occur within the business that management believes must be present to meet the broad objectives and business strategy	18%	4	27%	3	23%	3	9%	4
fwl.6	the conditions that must occur in the external environment that management believes must be present to meet the broad objectives and business strategy	18%	4	9%	4	27%	3	6%	4
fwl.7	the comparison of actual business performance to previously disclosed opportunities, risks and plans of the company	18%	4	36%	3	19%	4	51%	2
fwl.8	new products launched in the next years	21%	3	48%	3	44%	3	36%	3
fwl.9	the expectations concerning the growth of the company	48%	3	64%	2	83%	1	89%	1
fwl.10	the evolution of future macro-economic indicators (e.g. economic climate, exchange rates) and the effect on the company	21%	3	42%	3	42%	3	26%	3
fwl.11	the future production capacity of the company	21%	3	45%	3	33%	3	36%	3

Column 1: Information items		Column 2: Annual reports 2001		Column 3: Annual reports 2003		Column 4: Analyst reports 2002		Column 5: Analyst reports 2004	
		Freq. N=33	Cluster	Freq. N=33	Cluster	Freq. N=48	Cluster	Freq. N=47	Cluster
Information about management and shareholders (MAN)									
man.1	the directors and executive management	100%	1	100%	1	6%	4	11%	4
man.2	the major shareholder(s) of the company's stock	88%	1	82%	1	46%	3	68%	2
man.3	the number of shares owned by the directors, managers or employees	82%	1	79%	2	17%	4	9%	4
man.4	the director and executive management compensation	70%	2	88%	1	4%	4	4%	4
man.5	transactions and relationships among stakeholders and the company	48%	3	73%	2	50%	2	40%	3
man.6	the disagreement with directors, auditors, bankers not associated with the company	6%	4	12%	4	2%	4	0%	4
Background information about the company (BI)									
bi.1	the broad objectives of the company	85%	1	91%	1	77%	2	53%	2
bi.2	the broad strategies of the company	94%	1	97%	1	94%	1	68%	2
bi.3	the consistency or inconsistency of the strategy with key trends affecting the business	39%	3	21%	3	40%	3	15%	4
bi.4	the industry in which the business participates	100%	1	97%	1	100%	1	100%	1
bi.5	the general development of the business	82%	1	85%	1	77%	2	83%	1
bi.6	the principal products and services	94%	1	100%	1	96%	1	94%	1
bi.7	the principal markets and market segments	79%	2	97%	1	94%	1	96%	1
bi.8	the processes used to make and render principal products and services	36%	3	27%	3	29%	3	17%	4
bi.9	the distribution and delivery methods	70%	2	67%	2	33%	3	34%	3
bi.10	the seasonality and cyclicity of the company	18%	4	18%	4	60%	2	21%	3
bi.11	existing laws that have an influence on the business	27%	3	33%	3	31%	3	26%	3
bi.12	the macroeconomic activity	36%	3	42%	3	56%	2	49%	3
bi.13	major contractual relationships with customers and suppliers	42%	3	42%	3	60%	2	45%	3
bi.14	the location and productive capacity of the company's principle plants	67%	2	94%	1	58%	2	62%	2

Column 1: Information items		Column 2: Annual reports 2001		Column 3: Annual reports 2003		Column 4: Analyst reports 2002		Column 5: Analyst reports 2004	
		Freq. N=33	Cluster	Freq. N=33	Cluster	Freq. N=48	Cluster	Freq. N=47	Cluster
bi.15	the major suppliers of a company	6%	4	6%	4	19%	4	0%	4
bi.16	the availability or scarcity of supply of products or services	0%	4	3%	4	8%	4	11%	4
bi.17	the relative bargaining power of suppliers	3%	4	6%	4	0%	4	7%	4
bi.18	the dominant customers of the company	9%	4	24%	3	23%	3	11%	4
bi.19	the extent that the business is dispersed among its customers	24%	3	39%	3	21%	3	28%	3
bi.20	the relative bargaining power of customers	3%	4	0%	4	2%	4	9%	4
bi.21	the major competitors of a company	15%	4	15%	4	75%	2	64%	2
bi.22	the intensity of the competition	48%	3	45%	3	67%	2	51%	2
bi.23	the competitive position	61%	2	79%	2	69%	2	70%	2
bi.24	the ability of new companies to enter the business	6%	4	12%	4	19%	4	21%	3
Information about the intangible assets of a company (IC)									
ic.1	important patents, trademarks, licenses,...	30%	3	48%	3	23%	3	19%	4
ic.2	the main brands of the company	64%	2	73%	2	25%	3	36%	3
ic.3	research and development programs	61%	2	70%	2	17%	4	17%	4
ic.4	customer satisfaction or customer loyalty	12%	4	24%	3	0%	4	4%	4
ic.5	the education and training policy for employees	39%	3	45%	3	0%	4	6%	4
ic.6	the level of expertise of the employees	15%	4	30%	3	4%	4	11%	4
ic.7	the management quality	0%	4	3%	4	13%	4	6%	4
ic.8	the organisation structure	30%	3	30%	3	0%	4	0%	4
ic.9	the staff policy	42%	3	24%	3	0%	4	2%	4
ic.10	the job rotation	15%	4	3%	4	2%	4	0%	4
ic.11	realised acquisitions	61%	2	73%	2	65%	2	55%	2
ic.12	the technological know how	27%	3	48%	3	21%	3	9%	4
ic.13	the employee satisfaction	12%	4	9%	4	0%	4	0%	4

**Table 3: Frequency table presenting the number of items classified to each cluster for the sample of annual reports and analyst reports**

Cluster	Annual reports 2001	Annual reports 2003	Analyst reports 2002	Analyst reports 2004
1 (>80%)	13	14	7	8
2 (50%-80%)	12	14	17	14
3 (20%-50%)	25	31	21	30
4 (<20%)	25	16	30	34
Total	75	75	75	75

**Table 4: Descriptive statistics regarding the voluntary non-financial information disclosure in annual reports 2001 divided for each information category (N=33)**

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
AR01_BUS	33	1,00	7,00	4,1818	1,50944
AR01_ANA	33	2,00	6,00	3,6364	1,31857
AR01_FWL	33	1,00	8,00	3,5152	1,62252
AR01_MAN	33	2,00	6,00	3,9394	,99810
AR01_BI	33	4,00	16,00	10,4545	2,75103
AR01_IC	33	,00	10,00	4,0909	2,18466
AR01_TOT	33	17,00	47,00	29,8182	6,67764
Valid N (listwise)	33				

**Table 5: Descriptive statistics regarding the voluntary non-financial information disclosure in annual reports 2004 divided for each information category (N=33)**

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
AR03_BUS	33	1,00	8,00	4,8485	1,67931
AR03_ANA	33	2,00	8,00	4,3333	1,70783
AR03_FWL	33	,00	10,00	4,8182	2,12801
AR03_MAN	33	3,00	6,00	4,3333	,81650
AR03_BI	33	5,00	16,00	11,4242	2,83979
AR03_IC	33	,00	9,00	4,8182	2,05327
AR03_TOT	33	11,00	49,00	34,5758	7,50429
Valid N (listwise)	33				



**Table 6: Results of the Wilcoxon signed ranks test on annual reports**

Ranks		N	Mean Rank	Sum of Ranks
AR03_BUS - AR01_BUS	Negative Ranks	9 <sup>a</sup>	9,72	87,50
	Positive Ranks	17 <sup>b</sup>	15,50	263,50
	Ties	7 <sup>c</sup>		
	Total	33		
AR03_ANA - AR01_ANA	Negative Ranks	6 <sup>d</sup>	15,00	90,00
	Positive Ranks	19 <sup>e</sup>	12,37	235,00
	Ties	8 <sup>f</sup>		
	Total	33		
AR03_FWL - AR01_FWL	Negative Ranks	11 <sup>g</sup>	10,82	119,00
	Positive Ranks	20 <sup>h</sup>	18,85	377,00
	Ties	2 <sup>i</sup>		
	Total	33		
AR03_MAN - AR01_MAN	Negative Ranks	7 <sup>j</sup>	6,79	47,50
	Positive Ranks	12 <sup>k</sup>	11,88	142,50
	Ties	14 <sup>l</sup>		
	Total	33		
AR03_BI - AR01_BI	Negative Ranks	9 <sup>m</sup>	10,61	95,50
	Positive Ranks	19 <sup>n</sup>	16,34	310,50
	Ties	5 <sup>o</sup>		
	Total	33		
AR03_IC - AR01_IC	Negative Ranks	9 <sup>p</sup>	13,44	121,00
	Positive Ranks	20 <sup>q</sup>	15,70	314,00
	Ties	4 <sup>r</sup>		
	Total	33		
AR03_TOT - AR01_TOT	Negative Ranks	8 <sup>s</sup>	8,56	68,50
	Positive Ranks	24 <sup>t</sup>	19,15	459,50
	Ties	1 <sup>u</sup>		
	Total	33		

a. AR03\_BUS &lt; AR01\_BUS

b. AR03\_BUS &gt; AR01\_BUS

c. AR01\_BUS = AR03\_BUS

d. AR03\_ANA &lt; AR01\_ANA

e. AR03\_ANA &gt; AR01\_ANA

f. AR01\_ANA = AR03\_ANA

g. AR03\_FWL &lt; AR01\_FWL

h. AR03\_FWL &gt; AR01\_FWL

i. AR01\_FWL = AR03\_FWL

j. AR03\_MAN &lt; AR01\_MAN

k. AR03\_MAN &gt; AR01\_MAN

l. AR01\_MAN = AR03\_MAN

m. AR03\_BI &lt; AR01\_BI

n. AR03\_BI &gt; AR01\_BI

o. AR01\_BI = AR03\_BI

p. AR03\_IC &lt; AR01\_IC

q. AR03\_IC &gt; AR01\_IC

r. AR01\_IC = AR03\_IC

s. AR03\_TOT &lt; AR01\_TOT

t. AR03\_TOT &gt; AR01\_TOT

u. AR01\_TOT = AR03\_TOT

**Test Statistics<sup>b</sup>**

	AR03_BUS - AR01_BUS	AR03_ANA - AR01_ANA	AR03_FWL - AR01_FWL	AR03_MAN - AR01_MAN	AR03_BI - AR01_BI	AR03_IC - AR01_IC	AR03_TOT - AR01_TOT
Z	-2,303 <sup>a</sup>	-1,980 <sup>a</sup>	-2,555 <sup>a</sup>	-1,962 <sup>a</sup>	-2,482 <sup>a</sup>	-2,117 <sup>a</sup>	-3,662 <sup>a</sup>
Asymp. Sig. (2-tailed)	,021	,048	,011	,050	,013	,034	,000

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

**Table 7: Descriptive statistics regarding the use of voluntary non-financial information in analyst reports 2002 divided by each information category (N=48)**

<b>Descriptive Statistics</b>					
	N	Minimum	Maximum	Mean	Std. Deviation
AR02_BUS	48	,00	6,00	3,4792	1,41406
AR02_ANA	48	,00	5,00	3,2917	1,27092
AR02_FWL	48	2,00	9,00	5,4167	1,81991
AR02_MAN	48	,00	3,00	1,2500	1,00000
AR02_BI	48	6,00	17,00	12,0625	3,09018
AR02_IC	48	,00	4,00	1,6875	1,11386
AR02_TOT	48	10,00	40,00	27,1875	6,56767
Valid N (listwise)	48				

**Table 8: Descriptive statistics regarding the use of voluntary non-financial information in analyst reports 2004 divided by each information category (N=47)**

<b>Descriptive Statistics</b>					
	N	Minimum	Maximum	Mean	Std. Deviation
AR04_BUS	47	1,00	6,00	3,5745	1,31455
AR04_ANA	47	,00	6,00	3,3830	1,39180
AR04_FWL	47	3,00	9,00	5,3617	1,48068
AR04_MAN	47	,00	3,00	1,3191	,88726
AR04_BI	47	4,00	18,00	10,0213	3,08918
AR04_IC	47	,00	5,00	1,6383	1,27562
AR04_TOT	47	13,00	41,00	25,2553	5,86244
Valid N (listwise)	47				

**Table 9: Sample of paired analyst reports drawn up in 2002 and in 2004 for the same company by the same brokerage firm (N=30)**

Company name	Name brokerage firm
Agfa Gevaert	Broker A
Barco	Broker A
Barco	Broker B
Barco	Broker C
Bekaert	Broker A
Bekaert	Broker B
Bekaert	Broker C
CMB	Broker A
Colruyt	Broker A
Deceuninck	Broker A
DocPharma	Broker D
Duvel Moortgat	Broker D
Electrabel	Broker A
Innogenetics	Broker A
Lotus Bakeries	Broker B
Mobistar	Broker A
OmegaPharma	Broker A
OmegaPharma	Broker B
Recticel	Broker A
Recticel	Broker B
Resilux	Broker B
Roularta	Broker A
Solvay	Broker A
Solvay	Broker B
Tessenderlo	Broker A
Tessenderlo	Broker B
UCB	Broker A
Umicore	Broker A
Umicore	Broker B
VandeVelde	Broker A

**Table 10: Descriptive statistics regarding the use of voluntary non-financial information in analyst reports 2002 divided by each information category (N=30)**

<b>Descriptive Statistics</b>					
	N	Minimum	Maximum	Mean	Std. Deviation
AR02_BUS	30	2,00	6,00	3,7333	1,31131
AR02_ANA	30	,00	5,00	3,4000	1,10172
AR02_FWL	30	2,00	9,00	5,5000	1,99569
AR02_MAN	30	,00	3,00	1,3667	1,06620
AR02_BI	30	6,00	17,00	12,5333	2,96803
AR02_IC	30	,00	4,00	1,9000	1,06188
AR02_TOT	30	16,00	40,00	28,4333	6,32828
Valid N (listwise)	30				

**Table 11: Descriptive statistics regarding the use of voluntary non-financial information in analyst reports 2004 divided for each information category (N=30)**

<b>Descriptive Statistics</b>					
	N	Minimum	Maximum	Mean	Std. Deviation
AR04_BUS	30	2,00	6,00	3,5000	1,30648
AR04_ANA	30	1,00	6,00	3,4667	1,35782
AR04_FWL	30	3,00	9,00	5,5667	1,59056
AR04_MAN	30	,00	3,00	1,3667	,96431
AR04_BI	30	4,00	18,00	10,3667	3,38845
AR04_IC	30	,00	5,00	1,8000	1,37465
AR04_TOT	30	13,00	41,00	26,0667	6,16963
Valid N (listwise)	30				

**Table 12: Results of the Wilcoxon signed ranks test on a sample of 30 paired analyst reports**

Ranks		N	Mean Rank	Sum of Ranks
AR04_BUS - AR02_BUS	Negative Ranks	13 <sup>a</sup>	13,31	173,00
	Positive Ranks	11 <sup>b</sup>	11,55	127,00
	Ties	6 <sup>c</sup>		
	Total	30		
AR04_ANA - AR02_ANA	Negative Ranks	10 <sup>d</sup>	12,90	129,00
	Positive Ranks	13 <sup>e</sup>	11,31	147,00
	Ties	7 <sup>f</sup>		
	Total	30		
AR04_FWL - AR02_FWL	Negative Ranks	13 <sup>g</sup>	13,23	172,00
	Positive Ranks	13 <sup>h</sup>	13,77	179,00
	Ties	4 <sup>i</sup>		
	Total	30		
AR04_MAN - AR02_MAN	Negative Ranks	11 <sup>j</sup>	9,73	107,00
	Positive Ranks	9 <sup>k</sup>	11,44	103,00
	Ties	10 <sup>l</sup>		
	Total	30		
AR04_BI - AR02_BI	Negative Ranks	19 <sup>m</sup>	14,50	275,50
	Positive Ranks	7 <sup>n</sup>	10,79	75,50
	Ties	4 <sup>o</sup>		
	Total	30		
AR04_IC - AR02_IC	Negative Ranks	12 <sup>p</sup>	13,42	161,00
	Positive Ranks	12 <sup>q</sup>	11,58	139,00
	Ties	6 <sup>r</sup>		
	Total	30		
AR04_TOT - AR02_TOT	Negative Ranks	19 <sup>s</sup>	15,53	295,00
	Positive Ranks	10 <sup>t</sup>	14,00	140,00
	Ties	1 <sup>u</sup>		
	Total	30		

- a. AR04\_BUS < AR02\_BUS  
b. AR04\_BUS > AR02\_BUS  
c. AR02\_BUS = AR04\_BUS  
d. AR04\_ANA < AR02\_ANA  
e. AR04\_ANA > AR02\_ANA  
f. AR02\_ANA = AR04\_ANA  
g. AR04\_FWL < AR02\_FWL  
h. AR04\_FWL > AR02\_FWL  
i. AR02\_FWL = AR04\_FWL  
j. AR04\_MAN < AR02\_MAN  
k. AR04\_MAN > AR02\_MAN  
l. AR02\_MAN = AR04\_MAN  
m. AR04\_BI < AR02\_BI  
n. AR04\_BI > AR02\_BI  
o. AR02\_BI = AR04\_BI  
p. AR04\_IC < AR02\_IC  
q. AR04\_IC > AR02\_IC  
r. AR02\_IC = AR04\_IC  
s. AR04\_TOT < AR02\_TOT  
t. AR04\_TOT > AR02\_TOT  
u. AR02\_TOT = AR04\_TOT

**Test Statistics<sup>c</sup>**

	AR04_BUS - AR02_BUS	AR04_ANA - AR02_ANA	AR04_FWL - AR02_FWL	AR04_MAN - AR02_MAN	AR04_BI - AR02_BI	AR04_IC - AR02_IC	AR04_TOT - AR02_TOT
Z	-,665 <sup>a</sup>	-,279 <sup>b</sup>	-,090 <sup>b</sup>	-,079 <sup>a</sup>	-2,546 <sup>a</sup>	-,322 <sup>a</sup>	-1,679 <sup>a</sup>
Asymp. Sig. (2-tailed)	,506	,780	,928	,937	,011	,747	,093

- a. Based on positive ranks.  
b. Based on negative ranks.  
c. Wilcoxon Signed Ranks Test

**Table 13: Mean scores regarding the disclosure of non-financial information in annual reports and analyst report on each information category**

	Annual reports 2001 (N=28)	Annual reports 2003 (N=28)	Analyst reports 2002 (N=48)	Analyst reports 2004 (N=47)
BUS	4,4643	5,0000	3,4792	3,5745
ANA	3,7857	4,4286	3,2917	3,3830
FWL	3,3571	4,6429	5,4167	5,3617
MAN	3,9286	4,2857	1,2500	1,3191
BI	10,2857	11,3571	12,0625	10,0213
IC	3,6429	4,7143	1,6875	1,6383
<b>TOT</b>	<b>29,4643</b>	<b>34,4286</b>	<b>27,1875</b>	<b>25,2553</b>

**Table 14: Mean scores regarding the relative importance attached by corporate managers and financial analysts on each information category**

	Annual reports 2001 (N=28)	Annual reports 2003 (N=28)	Analyst reports 2002 (N=48)	Analyst reports 2004 (N=47)
BUS	15,09%	14,31%	12,56%	14,21%
ANA	13,16%	13,06%	12,35%	13,64%
FWL	11,50%	12,97%	20,03%	21,41%
MAN	13,74%	13,17%	4,49%	5,12%
BI	34,70%	33,38%	44,65%	39,46%
IC	11,81%	13,10%	5,92%	6,16%
<b>TOT</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Table 15: Results of the Mann-Whitney U test between annual reports 2001 and analyst reports 2002****Ranks**

GROUP		N	Mean Rank	Sum of Ranks
BUS	annual	28	46,34	1297,50
	analyst	48	33,93	1628,50
	Total	76		
ANA	annual	28	39,57	1108,00
	analyst	48	37,88	1818,00
	Total	76		
FWL	annual	28	19,46	545,00
	analyst	48	49,60	2381,00
	Total	76		
MAN	annual	28	61,34	1717,50
	analyst	48	25,18	1208,50
	Total	76		
BI	annual	28	18,73	524,50
	analyst	48	50,03	2401,50
	Total	76		
IC	annual	28	53,82	1507,00
	analyst	48	29,56	1419,00
	Total	76		

**Test Statistics<sup>a</sup>**

	BUS	ANA	FWL	MAN	BI	IC
Mann-Whitney U	452,500	642,000	139,000	32,500	118,500	243,000
Wilcoxon W	1628,500	1818,000	545,000	1208,500	524,500	1419,000
Z	-2,365	-,323	-5,741	-6,905	-5,962	-4,624
Asymp. Sig. (2-tailed)	,018	,747	,000	,000	,000	,000

a. Grouping Variable: GROUP

**Table 16: Results of the Mann-Whitney U test between annual reports 2003 and analyst reports 2004****Ranks**

GROUP		N	Mean Rank	Sum of Ranks
BUS	annual	28	38,39	1075,00
	analyst	47	37,77	1775,00
	Total	75		
ANA	annual	28	36,43	1020,00
	analyst	47	38,94	1830,00
	Total	75		
FWL	annual	28	19,43	544,00
	analyst	47	49,06	2306,00
	Total	75		
MAN	annual	28	59,11	1655,00
	analyst	47	25,43	1195,00
	Total	75		
BI	annual	28	26,98	755,50
	analyst	47	44,56	2094,50
	Total	75		
IC	annual	28	54,36	1522,00
	analyst	47	28,26	1328,00
	Total	75		

**Test Statistics<sup>a</sup>**

	BUS	ANA	FWL	MAN	BI	IC
Mann-Whitney U	647,000	614,000	138,000	67,000	349,500	200,000
Wilcoxon W	1775,000	1020,000	544,000	1195,000	755,500	1328,000
Z	-,121	-,482	-5,699	-6,482	-3,380	-5,026
Asymp. Sig. (2-tailed)	,904	,630	,000	,000	,001	,000

a. Grouping Variable: GROUP